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SPACE GATEWAY SUPPORT (SGS) **SGS-26 27 13.00 99 (April 2006)**

Preparing Activity: SGS-DE **Superseding SGS-16146J (April 2005)**

SGS GUIDE SPECIFICATIONS

References are NOT in Agreement with UMRL dated 01 April 2006

Revised throughout - changes not indicated by CHG tags
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26 27 13.00 99

ELECTRICITY METERING
04/06

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NOTE: This guide specification covers the requirements for the installation of Kilowatt-hour/kilowatt electricity hour meters.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.
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PART 1 GENERAL

1.1 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.
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The publications listed below form a part of this section to the extent referenced.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C12.1	(1995) Code for Electricity Metering
ANSI C12.16	(1997) Solid-State Electricity Meters

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C2	(1997) National Electrical Safety Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2002) National Electrical Code

1.2 GENERAL REQUIREMENTS

Provide necessary material and labor to install Kilowatt-hour/kilowatt electricity hour meters at various lift stations at Cape Canaveral Air Force Station (CCAFS) as indicated by the Drawings.

1.3 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy, Air Force, and NASA projects.

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The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES in sufficient detail to show full compliance with the specification and the applicable provisons of ANSI C12.1:

SD-03 Product Data

Manufacture's Catalog Data shall be submitted for the following items:

Meter and Socket

PART 2 PRODUCTS

2.1 KILOWATT HOUR/KILOWATT METER

2.1.1 General Provisions for Meter

Meter shall be solid state (electronic)and comply with ANSI C12.16. Electromechanical type are not acceptable.

The Meter shall be UL recognized or UL listed. Meters shall meet or exceed the following ANSI standards: ANSI C12.1, ANSI C12.10, ANSI C12.16, ANSI C12.20 and comply with the applicable provisions of NFPA 70, and IEEE C2. Submit the following Product Data for review and approval:

Manufacture's Catalog Data: Meter and Socket

Meters shall have the following ratings:

Self Contained
Form: 16S
Class: 200
Voltage: 120-480 Volts
Service: 30, 4 Wire, Wye, or Delta
Sockets: 7
Sensors: 3
Frequency: 60 Hz
Temperature: -40^0 to 85^0 C

Transofrmer Rated
Form: 9S
Class: 20
Voltage: 120-480 Volts
Service: 30, 4 Wire, Wye, or Delta
Sockets: 13
Sensors: 3
Frequency: 60 Hz
Temperature: -40^0 to 85^0 C

Meters shall be socket mounted and outdoor rated. Meters shall be field programmable.

The meter socket shall be NEMA Type 3R, box mounted socket having automatic circuit closing bypass and jaws compatible with the requirements of the meter. Cover unused hub openings with blank hub plates.

Meter shall be provided with Polycarbonate lockable cover to prevent tampering and unauthorized removal.

Indicate multiplier on the meter face.

All billing quantities, programming, setup and calibration data shall be stored in nonvolatile (EEPROM) memory.

The Meter shall be capable of being configured through the front panel or through a computer interface.

Meter shall have option board for pulse output capability.

Meter shall be provided with UV resistant Liquid crystal Display.

Meter shall be General Electric Type "KV", Catalog No. 744X400001 or approved equal.

2.1.2 Measurement Capabilities

Accuracy: =0.270 at standard test points for energy and demand (typical)

Voltage metering range from 120 V to 480 V +10%, -20% single or three phase.

Meter shall display KW and KWH with future capabilities for displaying and recording KVHR and KVA.

2.1.3 Demand Register

Provide solid state demand register.

Demand interval length shall be factory programmed for 30 minutes with rolling demand with six 5-minute intervals for 30 minutes with rolling demand with six 5-minute intervals.

Demand reset switch shall be located on the front of the meter and shall be provided with a protective cover.

2.2 ENCLOSURES

Enclosures used for CT's, shorting blocks and voltage taps shall be NEMA 4X Stainless steel in all outdoor applications and corrosive environments. Enclosures shall be provided with a hinged lockable cover to prevent tampering and unauthorized removal.

2.3 TERMINAL BLOCKS

Terminal blocks shall be front connected and UL listed.

All current carrying metallic components including hardware shall have a corrosion-resistant nickel finish.

PART 3 EXECUTION

3.1 GENERAL

Electrical installation shall conform to IEEE C2 and NFPA 70.

-- End of Section --